DOCUMENT RESUME

ED 103 932 CS 501 028

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TITLE Artifactual Evidence in Research and Teaching: Invalidity in Judgments of Communicative Behavior.
PUB DATE 75
NOTE 15p.; Prepared at the University of Iowa

EDRS PRICE MF-$0.76 HC-$1.58 PLUS POSTAGE
DESCRIPTORS *Behavior Patterns; *Communication (Thought Transfer); *Educational Research; higher Education; Human Relations; Literature Reviews; *Models; *Teaching
IDENTIFIERS *Artifactual Evidence

ABSTRACT

This paper contains a discussion concerning some of the variables which threaten external validity and inferences about communicative behavior made by researchers and teachers. Communication researchers have begun to explore potentially artifactual sources of variance in judgments of evaluations of communicative behavior. Some studies have shown that not only can expectations about another person's behavior affect the perceptions or judgments of an ostensibly objective observer, but such expectations may alter the behavior of the person being observed (known as the Pygmalion Effect). Observer bias, experimenter expectancy, and Pygmalion effects are sometimes called "artifactual effects" or "experimental artifacts." A tentative model of potentially artifactual outcomes in communication assessment is offered. (RB)

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ARTIFACTUAL EVIDENCE IN RESEARCH AND TEACHING: INVALIDITY IN JUDGMENTS OF COMMUNICATIVE BEHAVIOR

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As a child I feared moving from kindergarten to the first grade. Indeed, so deep was my dread that my older sister and parents felt obligated to conduct a persuasive campaign designed to convince me that this move was perhaps the most important step toward manhood. I feared this passage and its associated rite - a march to the east end of the building - because they meant that I would be confronted by several new teachers, none of whom knew that I was a "good boy." My kindergarten teacher knew that I was good but the others did not. What if they decided I was bad?

I need not have feared as it turns out because miraculously the first grade teacher knew me. She appointed me a milk monitor early on the first day and later that afternoon assigned me to a group of Bluebirds, all the members of which were, surprisingly, good boys and girls also. This reinforced what I already knew: teachers were magical beings who could instantaneously discern good from evil. It was later in my career that I came to realize that this foreknowledge was not miraculous, but was rather the routine and predictable outcome of teachers' meetings and casual conversations in a room we were forbidden to enter called the lounge. Still later I learned that this foreknowledge had long-term consequences for students, some of which were not good.

This anecdote is grounded in fact and I am sure that it reflects the experiences of many persons here. As teachers and researchers we form expectations about those whom we influence in our particular ways, i.e., our students and our subjects. Those whom we influence similarly have expectations about themselves and about us. There is a growing body of research which suggests that these mutual expectations can powerfully affect perceptions, behaviors, and behavioral outcomes.

General Research and Theory

Researchers have known for many years that perception is selective; indeed attention, set, and attitude are classical constructs in psychological research. For example, an early, ingenious study by Bruner and Postman demonstrated that persons may distort stimuli as seemingly objective as the color or suit of playing cards as a result of prior learning.[1] Only recently, though, have researchers begun to demonstrate perceptual selectivity in persons culturally designated as rational performing ostensibly objective tasks. Experimenters and teachers have been shown to be other than neutral recorders of objective stimuli. In one of the first studies in this tradition, Cordaro and Ison led observers to expect a high incidence of head turns and body contractions in one sample of planaria and a low incidence of these responses in a second sample. The samples of planaria were in fact identical. Observers in the high-expectation condition reported twice as many head turns and three times as many contractions as those in the low-expectation condition.[2] Simon induced high and low expecta-

tions in two groups of examiners and then had them score the same twenty responses to vocabulary items from a subtest of the Wechsler Intelligence Scale for Children. The responses were actually taken from protocals of children whose IQs ranged from 90 to 110. The mean score obtained by examiners with high expectations was higher than that obtained by examiners with low expectations.[3]

Other studies have shown that not only can expectations about another person's behavior affect the perceptions or judgments of an ostensibly objective observer, but such expectations may actually alter the behavior of the person being observed. It has been shown, for example, that experimenter's expectations regarding the performance of subjects on person perception tasks can have a predictable effect on subjects' responses.[4] Rosenthal has labeled this the "experimenter expectancy effect."

In 1968, Rosenthal and Jacobson took the notion of experimenter expectancy out of the laboratory and into another ostensible bastion of objectivity, the classroom. In their famous and controversial study, Pygmalion in the Classroom, the researchers demonstrated that teachers' expectations regarding the intelligence of their students under some conditions can produce actual changes in measured intelligence.[5] Some recent studies have replicated the "Pygmalion effect", though others have failed to do so.[6]

Observer bias, experimenter expectancy and Pygmalion effects are members of a broader class sometimes called "artifactual effects" or "experimental artifacts."[7] Arti-

factual effects are potential threats to external validity,[8] i.e., to valid generalizations about samples of data. For instance, behavioral effects mediated by an experimenter's expectations may be generalizable only to situations where experimenters hold the same expectations about their subjects. Such effects may not be generalizable to a broader population of subjects for whom no particular expectations are held regarding the particular class of behaviors observed. And frequently it is to this broader population that we wish to generalize. Indeed the research of Rosenthal and others suggests that under certain circumstances broader generalizations may be spurious.

More specifically, the inferences of communication researchers and teachers may be invalid for at least some of their typical purposes. A communicator may not be nonfluent, for example, as we often seem to assume, especially in our role as teachers. Rather he may be nonfluent in the presence of a teacher or experimenter expecting him to behave in that way. Nonfluencies may be demanded by the particular teacher or experimenter, and inferences about the communicator's level of nonfluency may be bound to the class: "observations made by person X."

Communication Research and Potential Artifacts

Communication researchers have begun to explore potentially artifactual sources of variance in judgments or evaluations of communicative behavior. Pertinent studies typically analyze variance attributable to the receivers of communications rather than to the communications themselves.

Organismic Differences

Some studies have examined differences in judgments relating to idiosyncratic response tendencies of receivers and to personality differences. Bock provides some support for the claim that speech raters may differ in degree of leniency across speakers and that particular raters may consistently overvalue or undervalue one aspect of communicative performance, e.g., organization.[9] In a study by Bostrom, raters scoring high on a rigidity scale were found to be more negative and more variable in their evaluations of speakers than were raters scoring low in rigidity.[10] Similarly, Bradac and Konsky found a relationship between the personality variable "internality-externality" and the degree of variability in low-inference judgments of communicative behavior.[11]

Expectations and Observer Bias

Other studies have tested the effects of listeners' expectations on judgments of communicative behavior. In some cases researchers examine effects of expectations which exist prior to and independent of the study and in others they create expectations before examining their effects. Burgoon had black and white subjects evaluate either militant or non-militant black leaders to establish militant and non-militant response sets, then he had them rate the degree of militancy in a neutral message about black students. Results indicated that both black and white subjects in the response-set conditions differed from control subjects in a no response-set condition. Black subjects in the militant response-set condition rated the message

as more militant than their counterparts in the non-militant response-set condition, though, surprisingly, the opposite was true for the white subjects.[12]

Hurt and Weaver used two versions of a taped message to evoke racial stereotypes in their subjects. In one version, the speaker used black dialect and in the other he did not. They found that subjects rated the speaker less favorably and that there was more distortion of his message when he used black dialect. Also, high-ethnocentric subjects distorted the message more than low-ethnocentric subjects in the black dialect condition.[13]

Bradac, Courtright, Schmidt, and Davies told raters that they were about to hear a message delivered either by a high-status speaker or by a low-status speaker. Within each status expectancy condition, half of the raters heard a lexically diverse version of a message and half heard a lexically restricted version. On several evaluative dimensions, e.g., competence, dynamism, and language appropriateness, a status x lexicon interaction occured. Specifically, the lexically restricted performance was evaluated extremely negatively in the high-status expectancy condition. This result presumably reflects the expectations middle-class listeners have about an appropriate language style for high-status speakers.[14]

Bradac and Bell investigated the effects of observer expectations about a speaker's nonfluency level on nonfluency counts made during a taped speech and on post-performance evaluations of nonfluency, anxiety, central idea, organization,

language, delivery, and general effectiveness. The influence of task ambiguity and medium of presentation on expectancy effects was also explored. Results indicated that observers who expected a fluent speaker counted fewer nonfluencies in his speech than observers who expected a nonfluent speaker; that fluent-expectation observers rated the speaker more positively on the seven evaluative measures; that low task ambiguity eliminated expectancy effects on nonfluency counts and ratings of organization but not on the other six evaluative measures; and that auditory and auditory-visual presentations of the speech did not produce significant differences.[15]

Reactive Effects and Pygmalion Effects

Certain attributes and behaviors of message recipients have been shown to affect formal and substantive aspects of spoken messages. Effects of this sort are called "reactive effects by Webb, Campbell, Sechrest, and Schwartz.[16] For example, Siegmann and Pope found that high-status interviewers elicit more speech from interviewees than do low-status interviewers.[17] Bradac and Konsky confirmed this finding, though their results indicate that this effect is qualified by the type of evaluation anticipated by interviewees.[18] Matarazzo has shown that there is a positive correlation between the duration of interviewers' questions and the duration of verbal responses of interviewees.[19]

I know of no studies which have shown that the expectations of receivers can affect the behavior of speakers. At this point we can only speculate about the existence of true pygmalion effects in communication. It has been shown

that nonverbal feedback can affect speech performance, however;[20] and to the extent that receivers' expectations may influence their nonverbal behaviors, eye contact and head nodding, for example, it seems likely that expectations regarding speakers may affect speech performance.

A Model of Potentially Artifactual Outcomes in Communication Assessment

The studies I have just described and other studies as well indicate that certain receiver attributes, organismic variables, and expectancies may influence judgments of communicative behavior. Ignorance of the effects of these variables may lead us to make erroneous inferences about the communicative behavior of students or subjects. Evaluations or judgments of communicative behavior may be bound to a particular teacher or experimenter, and they may not be valid indicators of general ability or general effects.

Here is a model of potentially artifactual outcomes in communication assessment (figure 1). A receiver, (teacher or experimenter) has cultural expectations (stereotypes), person-specific expectations, idiosyncratic response tendencies, and attributes (verbal and nonverbal signs representing role, status, etc.). These variables influence the receiver's explicit judgments, which may be communicated verbally, and his or her implicit judgments, which are often communicated nonverbally. A communicator (student or subject) exhibits verbal and nonverbal behaviors which are affected by the receiver's attributes and by his or her verbal or nonverbal judgmental communications. The communicator's verbal and nonverbal communications affect

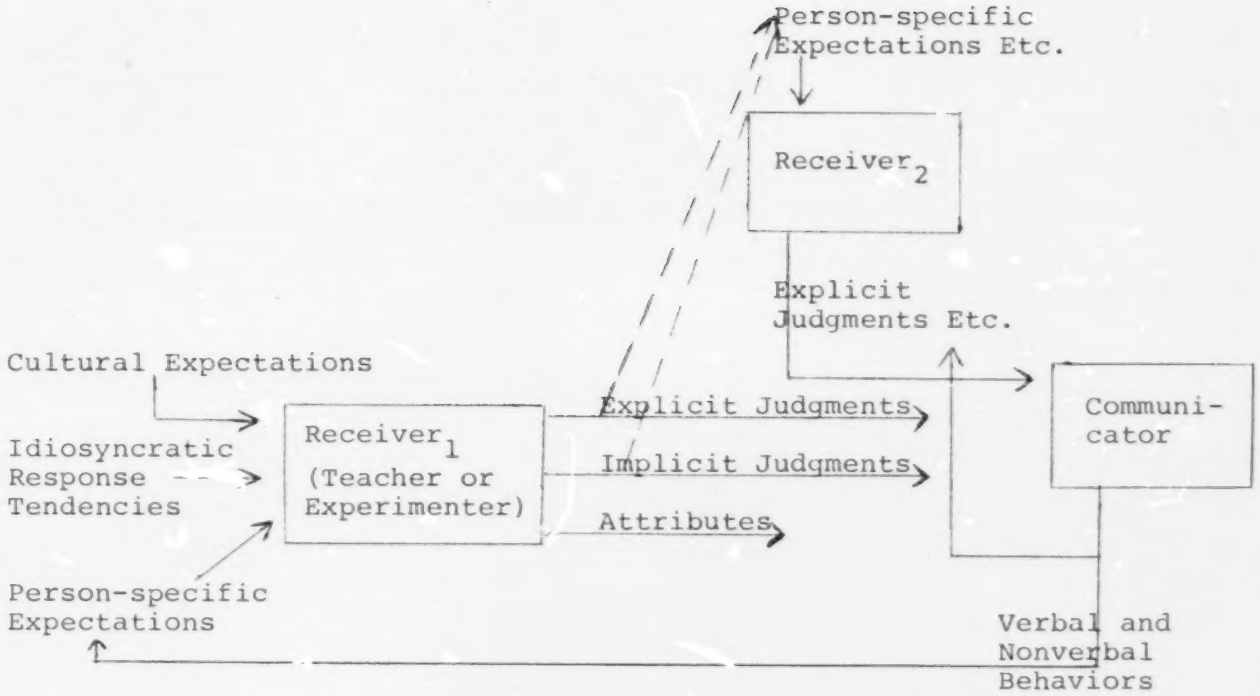

Figure 1

A Model of Potentially Artifactual

Outcomes in Communication

the receiver's person-specific expectations. $Receiver_1$ may communicate his or her judgments to $receiver_2$ who in turn may assess the communicator's behavior. In this process, homeostasis will be reached when the first receiver's expectations and judgments are internally congruent and in some cases when they are congruent with the expectations and judgments of a second receiver. Disruptions of homeostasis may be reduced (or prevented) by shaping the communicator's behavior in such a way as to produce increasing accordance between this behavior and the receiver's expectations and judgments.

Conclusion

I have discussed some variables which threaten the external validity of our inferences about communicative behavior and I have given examples of pertinent research. A tentative model of potentially artifactual outcomes in communication assessment was offered also.

Many important issues and studies have yet to be mentioned. This will be the burden of the subsequent speakers. Mr. Davies will extend my model and will describe conditions under which the drive for balance between expectations and judgments may be increased or reduced. Professor Nofsinger will relate some of the nctions I have discussed to judgments of speech and language behavior. Finally, Professor Cegala will offer some suggestions about what we can do to increase the validity of our judgments about communication behavior and thus increase the power of the inferences that we make as teachers and researchers.

Notes

[1]J. S. Bruner and Leo Postman, "On the Perception of Incongruity: A Paradigm", Journal of Personality, 18 (1949), 206 - 223.

[2]L. Cordaro and J. R. Ison, "Observer Bias in Classical Conditioning of the Planarian", Psychological Reports, 13 (1963), 787 - 789.

[3]W. E. Simon, "Expectancy Effects in the Scoring of Vocabulary Items: A Study of Scorer Bias", Journal of Educational Measurement, 6 (1969), 159 - 164.

[4]A good summary of some of this research can be found in Robert Rosenthal, Experimenter Effects in Behavioral Research (New York: Appleton-Century-Crafts, 1966), 141 - 302.

[5]Robert Rosenthal and Lenore Jacobson, Pygmalion in the Classroom (New York: Holt, Rinehart, and Winston, 1968).

[6]See, for example, Jere E. Brophy and Thomas L. Good, "Teachers' Communication of Differential Expectations for Children's Classroom Performance: Some Behavioral Data, "Journal of Educational Psychology, 61 (1970), 365 - 374; and Robert Rosenthal and D. B. Rubin," Pygmalion Reaffirmed," in Pygmalion Reconsidered, edited by Janet D. Elashoff and Richard E. Snow (New York: Charles A. Jones, 1971).

[7]R. L. Rosnow and Robert Rosenthal, Artifact in Behavioral Research (New York: Academic Press, 1969).

[8]Donald T. Campbell and Julian C. Stanley, Experi-

mental and Quasi-Experimental Designs for Research (Chicago: Rand McNally & Company, 1963).

[9]Douglas G. Bock, "Reliability and Validity of Speech Rating Scales: Some Error Effects," Central States Speech Journal, 33 (1972), 145 - 151.

[10]Robert N. Bostrom, "Dogmatism, Rigidity, and Rating Behavior," The Speech Teacher, 13 (1964), 283 - 287.

[11]James J. Bradac and Catherine W. Konsky, "Internality-Externality as a Determinant of Induced Expectations about Disfluency," unpublished study, Department of Speech and Dramatic Art, The University of Iowa.

[12]Michael Burgoon, "The Effects of Response Set and Race on Message Interpretation," Speech Monographs, 37 (1970), 264 - 268.

[13]H. T. Hurt and C. H. Weaver, "Negro Dialect, Ethnocentrism, and the Distortion of Information in the Communication Process," Central States Speech Journal, 33 (1972), 118 - 125.

[14]James J. Bradac, John Courtright, Gregson Schmidt, and Robert A. Davies, "The Effects of Perceived Speaker Status on Judgments of Elaborated and Restricted Language Performance," unpublished study, Department of Speech and Dramatic Art, The University of Iowa.

[15]James J. Bradac and Mae A. Bell, "The Effects of Observer Expectations, Task Ambiguity, and Medium of Presentation on Low- and High-Inference Judgments of Communicative Behavior," Human Communication Research (in press).

[16]Eugene J. Webb, Donald T. Campbell, Richard D.

Schwartz, and Lee Sechrest, Unobtrusive Measures: Non-reactive Research in the Social Sciences (Chicago: Rand McNally & Company, 1966).

[17]Aron Wolfe Siegman and Benjamin Pope, (eds.), Studies in Dyadic Communication (New York: Pergamon Press, 1972).

[18]James J. Bradac and Catherine W. Konsky, "The Effects of Interviewer Status, Anticipated Evaluation, and Communication Demand on Linguistic Elaboration: A Preliminary Analysis," paper presented at the annual meeting of the Speech Communication Association, New York, 1973.

[19]J. D. Matarazzo, "Control of Interview Behavior," paper read at a meeting of the American Psychological Association, St. Louis, 1962.

[20]Jon A. Blubaugh, "Effects of Positive and Negative Audience Feedback on Selected Variables of Speech Behavior," Speech Monographs, 36 (1969), 131 - 137.